



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,267	05/25/2006	Hans Rausing	0104-0575PUS1	2577

2292 7590 08/20/2008  
BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER
----------

WALBERG, TERESA J

ART UNIT	PAPER NUMBER
----------	--------------

3744

NOTIFICATION DATE	DELIVERY MODE
-------------------	---------------

08/20/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/580,267	<b>Applicant(s)</b> RAUSING, HANS	
	<b>Examiner</b> Teresa J. Walberg	<b>Art Unit</b> 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-5,8, and 11-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Derosier (6,889,759).

Derosier discloses a heat exchanger plate (Fig. 12a) including a number of turbulence promoting protuberances (32) which project from the plane of the heat exchanger plate (Fig. 12a)(note that the term protuberance is not considered to require any particular shape), the protuberances (32) having a surface profile (58, 60 in Fig. 12b) for promoting break-up of laminar boundary layers (Figs. 12a and 12b), the protuberances being symmetrically arranged (Fig. 12a), the surface profile having a depth that is smaller than the depth of the protuberances (Fig. 12b), the surface profile being concavely or convexly arranged relative to the protuberances (Fig. 12b), the surface profile including spherical or ellipsoid segments (Fig. 12b).

3. Claims 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derosier (6,889,759) in view of Harrison et al (6,260,830).

Derosier discloses a heat exchanger plate having the claimed structure with the exception of the heat exchanger plates being stackable in such a manner the protuberances in a first heat exchanger plate are partially accommodated in the protuberances in a second heat exchanger plate.

Harrison et al discloses arranging heat exchanger plates such that the protuberances in a first heat exchanger plate are partially accommodated in the protuberances in a second heat exchanger plate (see embodiment of Fig. 16).

It would have been obvious to one of ordinary skill in the art in view of Harrison et al to arrange the plates of Derosier to partially accommodate the protuberances of a first heat exchanger plate in the protuberances of a second heat exchanger plate, based on the flow pattern desired.

4. Claims 6, 7, 10, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derosier (6,889,759) in view of Dalzell (2,281,754).

Derosier discloses a heat exchanger plate having the claimed structure with the exception of the transition between the plate and the protuberances having a radius, the heat exchanger plates being arranged in pairs with the protuberances directed away from each other and in which pairs of plates a gap is arranged between the first and the second plate, and the surface profile together with the protuberances forming a golf ball like structure.

Dalzell discloses heat exchanger plates being arranged in pairs with the protuberances directed away from each other and in which pairs of plates a gap

Art Unit: 3744

is arranged between the first and the second plate, the plates having hemispherical protrusions which have a radius.

It would have been obvious to one of ordinary skill in the art in view of Dalzell to make the protrusions of Derosier in a hemispherical shape having a radius and to arrange the plates in pairs with the protuberances directed away from each other, based on the flow pattern desired.

5. Applicant's arguments and certified translation of the priority document, filed 29 April 2008, with respect to the rejection(s) of claim(s) 1-14 under the Brost document have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the newly discovered patent to Derosier (6,889,759).

6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract should be amended to remove phrases such as "the invention relates to" and legal phraseology such as "comprising".

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Teresa J. Walberg whose telephone number is 571-272-4790. The examiner can normally be reached on M-F 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Teresa J. Walberg/  
Primary Examiner, Art Unit 3744

/TW/